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Social Skills Decreases Social Anxiety for Children with Emotional Behavioral Disabilities

By

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Action Research

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Requirements for the Degree of

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**This action research
has been approved for
Cardinal Stritch University by**

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Chapter 1

Introduction

There are several residential facilities located in Wisconsin for students with moderate to severe emotional behavioral disabilities. These disabilities result in students finding difficulty in appropriately interacting socially with the staff and peers, which in turn may lead to social anxiety. Due to the verbal and/or physical problems which surface within the classroom, students must learn appropriate language, and be redirected from physical altercations. It remains to be seen whether social skills instruction appropriately reduces social anxiety in a residential placement as measured by the Liebowitz Anxiety Scale (Liebowitz, 1987) and daily logs.

Social anxiety becomes a problem as students enter the residential school with various backgrounds including physical or sexual abuse or severe neglect. Most students had been enrolled in several school districts or educational environments prior to placement. Typically students are placed in residential groups based on their chronological age and usually are with the same peers in the academic setting. Therefore, if there has been an incident or disagreement in the residential unit, it often carries over into the school.

At the residential site where this action research took place, a range of social skills development programs have been utilized on a daily basis to reduce social anxiety.

Purpose of this Study

The purpose of this study was to determine if social anxiety could be reduced through the implementation of social skill streaming activities. Nine 14 to 18-year-old male students were introduced to specific social skills and topics throughout the six-week intervention, and taught ways to interact appropriately with others. In order for students to reduce social anxiety, they

need opportunities to practice socializing and interacting with others in a safe and secure environment. In this study, the social lessons were centered on the following topics: introducing yourself, turn taking, asking for assistance, special interests, and conversation starters. The students participated in a variety of activities in a highly structured, small group setting which allowed for one-on-one conversations with peers and staff for one hour per day.

The intervention included short readings in Social Time magazine, with worksheets and discussions to enhance the information. Students worked in groups to create classroom visuals such as a mind sight wheel where students identified seven places or things that placed them in a happy and calm mind set. The group also made individual five point anxiety scales, labeling the emotions they felt at each of the five stages.

Social anxiety was measured weekly, based upon each individual's behavior log, as well as levels the researcher and individual identified at the end of each day. Prior to the invention, students took as a pretest the Liebowitz Anxiety Scale. At the end of the intervention the students retook the scale and the researcher analyzed the pre and post test scores to determine if anxiety was or was not effectively decreased.

Definitions

For the purpose of this research paper the term "social anxiety" is defined as:

"the fear of social situations and social interactions with other people that can automatically bring on feelings of self consciousness, judgment, evaluation, and inferiority." (Richards, 2012, p.1)

Social skills are defined as: “the personal skills needed for successful social communication and interactions.” (Richards, 2012, p.1)

Scope and Limitations

The participants in this study were from geographic areas throughout the United States. Seven students lived at the residential setting, two were day students. The number of participants was only nine so the researcher needs to be careful not to over generalize the results. There wasn't data gathered from younger populations or from a female sample. The majority of the participants were Caucasian, with Emotional Behavioral Disability as their primary disability; therefore the study doesn't reflect the responses of other disabilities or ethnicities.

Summary

Students with emotional behavioral disabilities placed in a residential setting are faced with a variety of social anxiety issues. There are multiple reasons for the placement, ranging from abuse from caretakers or family members, or a situation that is too unsafe for the family to have the child live at home. Social communication and interaction must be taught by teachers and support staff. It is the responsibility of the teacher and staff working with each of the children to introduce them to social skills and techniques that are appropriate for their age and comprehension level, and then provide them opportunities to practice using these new skills.

Chapter 2

Review of Literature

Problem Statement

The goal of this research was to study whether social skill instruction would decrease social anxiety. For the purpose of this research, social anxiety is defined as “the fear of social situations and the interaction with other people that can automatically bring on feelings of self-consciousness, judgment, and inferiority.” (Richards, 2012, p.1)

History of Social Anxiety

In the early 1900s, research was conducted to determine the reasons behind social anxiety, in order to help people with intense phobias. The only conclusion drawn at the time, however, was that there was a connection between shyness and social anxiety. It was determined that a person who was very shy had a higher chance of experiencing anxiety. There wasn't enough statistical data to validate this conclusion and more research needed to be done (Berger, 2005).

In the 1950s and 1960s two major psychiatrists, Joseph Wolpe and Isaac Marks, made great advances in the field of social anxiety. They discovered some techniques which proved to appropriately decrease some of the social anxiety experienced by people (Berger, 2005).

Joseph Wolpe was a South African psychiatrist who served as a medical officer for the South African army during World War II. It was during his time in the war hospitals that Wolpe encountered patients suffering from what is presently known as post-traumatic stress syndrome. At that time, there were limited resources available to help people and they were given numerous drugs to assist with the pain, with marginal results. Therefore, Wolpe decided to complete research to determine a better way to help his patients (Berger, 2005).

Through a series of experiments, Wolpe developed the concept of desensitization. He reasoned that most human behaviors, whether good or bad, are learned. Therefore, he believed that these behaviors could be unlearned, especially those that elicit feelings of fear. Wolpe conducted his first behavioral experiment on cats. He gave cats mild electric shocks that were accompanied by specific sounds and visuals. Consequently, the cats became fearful of those particular sounds and visuals. Then he gave the cats food in place of the shock, when they witnessed these sounds and visuals. Gradually, the cats became less afraid, successfully proving that behaviors could be unlearned (Berger, 2005).

Wolpe did some research directly related to social anxiety experienced in school settings as well. He encouraged students to create a list of ten things or events which caused anxiety. The list should begin with the things that caused the greatest amount of anxiety, working down to the least anxiety producing items. The students were encouraged to relax and think about a time they might experience mild social anxiety. Then Wolpe provided appropriate relaxation techniques during therapy sessions, which caused students to attach less anxiety when they faced the given situation. His techniques included behavior therapy and assertiveness training. In assertiveness training, the individuals were taught techniques to stand up for themselves, against their fears (New World Encyclopedia, 2008).

After the individual had compiled the list, Wolpe would determine whether the phobias included simple or complex neurosis. If all the phobias were connected to each other, it was considered a simple neurosis, but when the anxiety producing phobias did not connect to one another, it was considered a complex neurosis (Berger, 2005).

Wolpe would then help his clients conquer their phobias by forcing them to face their fears in a given situation. He constructed the Subjective Units of Disturbance Scale for assessing the level of anxiety which ranged from subjective disturbance to psychological pain. His clients would identify their level of disturbance on a scale from one to ten. The different levels of the Subjective Units of Disturbance Scales were (New World Encyclopedia, 2008):

10= feeling unbearably bad, out of control, as in a nervous breakdown, overwhelmed. The subject may feel so upset that he does not want to talk because he cannot imagine how anyone could possibly understand his agitation.

9= feeling desperate. What most people call a 10 is actually a 9. Feeling very, very bad, losing control of emotions, almost unbearable, and are afraid of what he/she might do.

8= the beginning of alienation, approaching loss of control.

7= on the edge of some definitely bad feelings, maintaining control with difficulty.

6=feeling bad to the point that the subject begins to think something ought to be done about the way she/he feels.

5= moderately upset, uncomfortable. Unpleasant feelings are still manageable with some effort.

4=somewhat upset, to the point that the subject cannot easily ignore an unpleasant thought; feeling uncomfortable.

3= mildly upset, worried, bothered to the point that the subject notices it.

2=a little bit upset, but not noticeable unless the subject pays attention to his feelings and then realizes there is something bothering him.

1=no acute distress and feeling basically good, if the subject makes special effort he might find something unpleasant, but not much.

0= peace, serenity, total relief, no bad feelings of any kind about any particular issue.

Desensitization meant that students, for example, were to think about events or issues which caused them great anxiety, while they engaged in relaxation techniques, with the overall goal of decreasing social anxiety. The relaxation activities desensitized the students to the event and, therefore, they experienced less anxiety (Berger, 2005).

Isaac Marks, a British psychiatrist, also made some discoveries in the specific area of social anxiety in the 1960s. Marks believed that social anxiety should be placed in a different category than all the other phobias as it had different impacts and consequences. He conducted case studies of students with emotional behavioral disabilities connected with social anxiety. He worked with people who had been physically or sexually abused. Therefore, they became very anxious or afraid when things were brought up connected to those who had been their abusers. Marks fought the stereotype that only females experienced social anxiety as he conducted research on males that also had the same anxieties (Reyes, 2009).

Theory behind Social Anxiety

Students with an emotional behavioral disability might suffer from social anxiety because they lack the skills to interact socially with others appropriately. Therefore, they may appear socially inadequate to their peers (Journal of Child Psychology, 1998. p. 175-176).

According to the Journal of American Psychiatry (2001), descriptive research was completed in 1997 by Beidel, to determine if there were an association between behavioral

inhibition and social anxiety in children who were the offspring of parents with major depression or panic disorders. For the purpose of this study, behavioral inhibition was defined as “the consistent tendency to express fear and withdrawal in unfamiliar situations.” (Beidel, 1997. p.917-918)

The participants in the study included 284 children who were divided into four groups: 129 children of parents who had panic disorder and major depression, 22 children of parents with panic disorder alone, 49 children of parents with major depression alone, and 84 children with parents of with neither major depression nor panic disorder. Three groups of parents took part in the study: parents with major depression, parents with panic disorders, and parents with neither major depression nor panic disorders. The participants were found through hospital and clinical referrals, and all the parents gave written consent to allow their children to participate (Beidel, 1997).

The study was completed by a series of interviews with the children and parents. The children were interviewed using a child behavior checklist. The parents were interviewed using the Structured Clinical Interview for DSM-III, and the Hollingshead Four Factor Index (Robinson, 1994.)

In conclusion, the study determined that there was a direct association between behavior inhibition and social anxiety. The children with behavior inhibitions were at a significantly higher risk of developing social anxiety (17%) than those without behavior inhibitions (5%). A child of a parent with a panic or anxiety disorder was at a higher risk for also developing the disorder. There was an inverse correlation between behavior inhibition and disruptive behavior;

those students with behavior inhibitions were significantly less disruptive (6%) than those without the inhibitions (20%) (Beidel, 1997).

Another descriptive research study reported in the *Journal of Anxiety Disorders* in 2001, attempted to determine if there was a link between children with social anxiety and negative events that had taken place in their lives. The participants in the study were 709 Caucasian and African American male and female students, ranging in age from 11 to 14. All participants were of low social-economic status as well (Virginia Polytechnic Institute, 2001).

During the study, the participants completed a series of checklists and anxiety scales. The research began with each student completing a questionnaire asking personal opinions about their social anxiety. The students also completed the Multidimensional Anxiety Scale for Children, which involved answering 39 questions on a four point scale. It measured adolescent anxiety across four domains: physical avoidance, harm avoidance, social anxiety, and separation anxiety (March, Parker, Sullivan, Stallings & Conner, 1997).

Students completed a How I Copied Under Pressure scale that contained 22 items, and asked students to identify which of these four coping categories they fit under for each: active, distracted, avoiding and support seeking. Lastly a life events checklist contained 28 controlled and uncontrolled life events. Each student indicated whether he/she had experienced the events, 17 of which were negative (Virginia Polytechnic Institute, 2001).

The authors of this study compared between African American and Caucasian groups. There was no significant difference between the two groups in age, gender, social support or social anxiety. There was a significant difference, however, with negative life events and coping strategies, as African American youth had experienced more negative events. After the

researchers analyzed the data, it was determined that there was a positive correlation between anxiety and negative events, and anxiety and active coping. There as a significant negative correlation between anxiety and social support as well (Journal of Anxiety Disorders, 2012).

A survey research completed by researchers from the United States National Institute of Mental Health examined the possible correlation between shyness and social anxiety. The research was drawn from a national survey that was completed by over 10,000 teenagers, ranging from 13 to 18 years old. The survey consisted of multiple choice questions which were analyzed by the researchers. They concluded that about half of the teenagers considered themselves shy, but only 12% of them would possibly develop social anxiety. The study also determined that 5% of the teenagers who didn't consider themselves to be shy did in fact meet the criteria for social anxiety. Therefore, the case study reached the conclusion that shyness was independent of social anxiety, and did not have a direct relationship (U.S. National Institute of Mental Health, 2011).

Several different approaches to social anxiety have been used throughout the years. In 1976, a cognitive therapy to assist with social anxiety was developed (Beck, 1976). Then in 2002, a group of 49 people diagnosed with social anxiety disorder participated in a research study spanning 12 weeks. Each participant took part in a weekly two and a half hour session of cognitive behavioral group therapy. The first two sessions were built around forming group cohesion, introducing the rationale for treatment, and teaching cognitive reconstructing concepts. The rest of the sessions focused on utilizing the cognitive reconstructing concepts through role-playing feared social situations, which challenged the participants' anxiety. Then the group would examine any negative feelings that occurred before, during, or after the activities. At the end of the 12 weeks, clinical examiners reached the conclusion that over 75% of the group was

now at a social anxiety rating below that classified as clinically impaired (American Psychiatric Press, 2008).

Social thinking is “grounded in theory related to social cognition and promotes teaching the ‘why’ behind socialization without implicitly targeting discrete social skills” (Winner, 2000, p.4). The Think Social curriculum incorporated several different techniques, models, and activities within its lessons in order to make the information purposeful and meaningful for the students. (Winner, 2008). The curriculum teaches students with disabilities how to interact and interpret language (nonverbal and verbal) appropriately in a group setting (Winner, 2008). The lessons can be used and adapted for a variety of ages as well, beginning as early as kindergarten, and spanning adulthood. The curriculum contains a total of 69 lessons, and at the end of each, there is a suggestion of an overall Individual Education Plan (IEP) goal, which could possibly meet the needs of the students in the class (Winner, 2008).

The Journal of Autism Developmental Disorders, published research from case studies completed using the Think Social Model as well. One of these studies conducted by Crooke, Hendrix & Rachman, researched the effectiveness of social thinking with students with Asperger Syndrome. The participants were six males, ranging in age from 9 to 11 years old. The intervention lasted eight weeks. The study used pre and post evaluations in order to track each student’s progress. The purpose of the study was to see if teaching the social skills curriculum would effectively increase appropriate verbal and nonverbal behavior of the participants. The researchers selected three verbal and two nonverbal behaviors, three of which were designated “unexpected” behaviors and the other two were considered “expected” behaviors (Winner, 2002). Unexpected verbal comments were defined as “rude, off topic, talking to yourself, and yelling/screaming,” while expected verbal behaviors were considered “on topic comments”

(Winner, 2002, p. 1). The unexpected nonverbal behaviors were “arm, head, and leg movement, and sounds/noises unrelated to the topic at hand.” The expected nonverbal actions were “listening with their eyes” (Winner, 2002, p.1).

The research was completed five days a week, for an hour a day. Each session was structured in the same format, consisting of: gathering (3 to 5 minutes of open talk); group lesson (specific social cognitive strategies/social thinking lessons); and ending with unstructured/practice time (open talk and snack time). There was 100% attendance by all participants in all the sessions (Crooke, Hendrix & Rachman, 2007).

After the pre and post evaluations were compared, it was determined that there was a significant increase in appropriate social interaction during expected and unexpected verbal and nonverbal interactions. Each student improved throughout the study in each of the categories (Crooke, et al., 2007).

Another study completed by researchers Joseph Durlak and Kriston Schellinger in 2010, indicated several benefits to teaching social skills to all students, regardless of level or disability. The study used 213 school based social and emotional learning programs, which involved 270,034 students, ranging from kindergarten through high school (Durlak & Schellinger, 2010).

The social and emotional learning program was designed by the Collaborative for Academic, Social and Emotional Learning group in 2009, with the goal of helping enhance school achievement. In this specific program, social and emotional learning is defined as “an approach for reducing risk factors and fostering protective mechanisms for positive adjustment” (Benson, 2009). The program focuses on teaching, modeling, and then practicing with students social skills which can be directly applied to specific situations in their daily lives (Benson,

2009). Another goal of the program is to create a safe, healthy, and secure learning environment by teaching students important social skills.

The research was completed by a variety of people as well, for it was implemented by two different groups. Fifty-three percent of the social and emotional programming was taught by the classroom teacher, while the rest of the study was completed by outside personnel, such as the university researchers and consultants. This program was used for two years by 77% of the 213 schools in the study. The data supported that there was significant improvement in overall academics after the implementation of the program as well as social skills. A positive correlation existed between the enhancement of social skills, and the academic success of the students (Durlak & Schellinger, 2010).

Conclusions/Inferences

The different research resulted in a variety of different outcomes and reached some overlapping conclusions. Most of the research findings were consistent. The fact that there was a positive correlation between social anxiety and negative life experiences was very important, as the participants in one study had faced moderate to severe negative events. There was also a positive correlation between active coping skills and social anxiety, which reflected the fact that even when students are taught and appropriately use the coping skills, there still remains a chance for social anxiety.

Chapter 3

Methodology

Design

The research design incorporated the following independent and dependent variables in its implementation. The independent variable was a social skill curriculum, while the dependent variable was the student's level of anxiety, as measured by the daily behavior logs, and pre and post test scores on the Liebowski Anxiety Scale.

Internal validity was controlled because only the researcher implemented the curriculum, collected the data, and administered the pre and post assessment presented to the students prior to, and following the intervention. Several threats to internal validity were considered during the intervention. For example, the results of the anxiety rating scale may have differed depending on the mood of a particular student on a given day. The length and effectiveness of the social skills lessons were also dependent on the overall class environment and attitude of the students. A regression might be noted in some students depending on external factors such as home visits and medication changes.

A possibility existed that students could be reassigned to another class. The design and instruction of the lessons might be modified to meet the unique needs of each individual participant.

External validity was controlled as the researcher instructed the same nine participants during the social skills instruction each day. She made sure that the class arrangement remained the same, including the presentation of materials. Due to the nature of a residential treatment

placement, the behaviors and results observed were specific to this setting, but could greatly differ from the majority of special education settings.

Participants

A total of nine participants made up the researcher's homeroom, and were participants in the research. All nine students were males with Emotional Behavioral Disability. Seven students lived at the residential school site and the other two returned to their homes at the end of the school day.

The table below identifies the nine participants based upon age, ethnicity, and grade level.

Table 1. Participants

Participant	Age	Ethnicity	Grade Level
Student #1	14	Caucasian	8
Student #2	14	Caucasian	8
Student #3	15	Caucasian	9
Student #4	16	Caucasian	10
Student #5	16	Caucasian	10
Student #6	16	African American	10
Student #7	17	Caucasian	11
Student #8	17	Caucasian	11
Student #9	18	Caucasian	12

Procedure

Prior to the social streaming intervention, the Liebowitz Anxiety Scale (1987) was administered to the participants. This scale is made up of 24 multiple choice questions, asking about specific situations, and having students select the level of anxiety and fear associated with each one. The instructor recorded the results. Following the intervention, the scale was readministered and the researcher determined whether anxiety decreased or increased based on the pre to the post intervention scores. The scale took students five to ten minutes to complete. Some students were given test accommodations as provided in their Individual Educational Plans (IEPs), such as reading the questions aloud, or verbal prompting and restating of the information.

The students completed social skills instruction for an hour a day, over the course of six weeks. Each individual was given activities, tests, mini projects, and self-reflection sheets to complete. Games were used when appropriate; to reinforce the topics introduced, such as charades, apples to apples, Pictionary, and social skills bingo. Those games made up a total of one hour per week of social skills instruction, spread over three school days.

The rest of the instruction included reading and answering questions, usually about specific social situations, and discussing Social Time magazine articles. The magazine covers a variety of topics ranging from anger to kindness and friendship. The students had whole group discussions about the articles they read, and made applications to real life situations they had experienced.

Each social skills class was ordered slightly differently depending upon the current topic, and whether students had ongoing projects or scripts they were completing. A typical Monday

social skills class, however, began with students playing a round of the “brag game,” where each student identified something they really enjoyed or liked about the past weekend. The students were told to keep their stories short, as they then had the opportunity to explain this event in more detail in their journals. The journaling took approximately ten minutes, as students often liked to add an illustration to their event as well. Then they shared their writing with the rest of the class.

After journaling, the instructor introduced the daily mini project to the class. It usually involved students using the internet to find facts and illustrations about a specific social topic, as this was the class computer time. The instructor constructed an example of each project, and the class brainstormed some ideas together, before leaving the classroom, in order to reduce any questions or inappropriate behavior once entering the lab.

Students were encouraged to incorporate their own thoughts and opinions in each project as well. For example, students created their own anxiety scale, identified appropriate emotions at each level, and then found a cartoon character that illustrated each level.

Students also explored a career cruising site, which allowed them to receive feedback on potential career choices, based upon their results from job quizzes. These quizzes had multiple choice responses and asked the students to identify their interest level in a given career, based on a scale ranging one to five. If the students selected “one” it meant they had no interest in the particular field, and if they chose “four” or “five” it reflected a high interest level. This site was explored for about 15 minutes; this allowed the last 15 to 20 minutes for game time. Students had the opportunity to practice their social skills by playing games such as Pictionary, charades, monopoly, jeopardy, and various other board games.

A typical Tuesday class had a different social skills format. The first ten minutes was spent independently reading an article from the Think Social curriculum (Winner, 2008). The class then had a discussion about the important points and events in the article; the instructor checked for understanding. Following the discussion, the class was given 10 minutes to work in partners or small groups to respond to comprehension and critical thinking questions. Then everyone came back together as a group, to verify that the answers were correct.

The following 20 minutes was spent either completing a mini project such as a group poster or students participated in social skills games led by the instructor. These games focused on the specific skill that had been introduced in the reading. For example, when the topic was the importance of non-verbal communication, the students sat in a circle and took turns conveying to the rest of the group a non-verbal message. Then there was a whole group discussion about how a person's facial expression and body language could non-verbally send a message.

The last 10 minutes of each social skills class was: a) free conversation time for five minutes, allowing the students to practice socializing appropriately with peers, while staff supervised; and b) a five minute period during which students completed a self-reflection sheet on what they felt they had learned from the class, and how they would benefit from these new skills and strategies.

Students verbally identified to the instructor their level of anxiety on a daily basis, using a scale located in the classroom, which ranged from 1 (experiencing the least) to 5 (experiencing the most) anxiety. Their levels were recorded on their daily behavior logs.

Daily behavior logs were kept for each individual targeting his IEP behavior goals. The logs included the following five categories: refusing to comply with instruction, leaving the area

without permission, inappropriate language, inappropriate boundaries, and physical aggressions towards staff and peers.

Materials

The social streaming intervention used a variety of materials including the Leibowitz Anxiety Scale (Leibowitz, 1987) as well as Think Social: A Social Thinking Curriculum (Winner, 2008), social streaming books such as Social Streaming the Elementary School Child (McGinnis, 1997), *Social Times* magazines (Buron, 2001), and games. The materials were stored in a folder for each individual, with a personalized copy of the anxiety scale and a reminder of school expectations. A copy of the daily behavior log was given to staff, parents, and the group home supervisors at the end of the school day.

Data Collection

Data were collected in a variety of ways throughout the intervention. The Liebowitz Anxiety Scale was introduced at the beginning and administered again at the end of the intervention as a way to identify areas that resulted in the most and least anxiety. At the end of six weeks the teacher recorded totals for each area, to see where the most and least anxiety was experienced for each individual.

Behavior data logs were used on a daily basis for each individual as well. Behavior data were recorded by tally marks for each category. A copy of the results was kept with the teacher, while additional copies were given to the residential home staff or parents of the child. Each student had a separate folder where behavior data charts were kept as well as any social streaming worksheets, stories, and projects that were completed.

The comprehension question answers from the Think Social curriculum were reviewed by the researcher at the end of each lesson to check for understanding, but they were not used as data in this study.

Data Analysis

The behavior data were analyzed weekly by reviewing the frequency of each specific social behavior, and whether it was exhibited more or less often throughout the intervention. Each student's behavior results were placed on a line graph to determine whether behaviors occurred more or less frequently, and see if there are any similarities across the group. The data were reported weekly with graphs and tables, based on direct observations and charting by the teacher. The results of the anxiety scale pre and post responses were compared and shown in a table.

Chapter 4

Results

Prior to the intervention, each student took a pre-test using the Liebowitz Anxiety Scale. This test was created by Dr. Michael Liebowitz in 1987, to help identify the level of fear and avoidance a person was experiencing in a variety of anxiety-producing situations. The test included twenty four multiple choice questions, which required each student to record the level of fear and the level of avoidance they would exhibit in each situation. These situations ranged from eating, drinking, or using a telephone in public, to socially interacting with others, and/or presenting in front of an audience. There were four choices for each question as well, which were: no anxiety, mild anxiety, moderate anxiety, and severe anxiety.

The test required two answers per question, which allowed for a possible of 144 points, if a person was to answer severe for every category. Therefore, Liebowitz concluded that the scores could be separated into the following levels: 0- 55 none to mild anxiety, 55-80 marked anxiety, 80-95 moderate anxiety, and 95 or higher severe anxiety. The pre-test scores for the nine students are recorded in the table below.

Table 2. Liebowitz Anxiety Scale Pre-test and Post Test Scores

	Student # 1	Student # 2	Student # 3	Student # 4	Student # 5	Student # 6	Student # 7	Student # 8	Student # 9
Pre-test Scores	108	94	89	82	91	79	77	56	71
Post Test Scores	105	92	91	80	89	76	75	55	71

The pre-test scores reflected the level of fear and avoidance each student associated with each of the anxiety producing situations suggested by the Liebowitz scale. Student 1 received the highest total, which placed him in the severe anxiety category. Students 2, 3, 4, and 5 placed in the moderate anxiety category. The remaining students (6-9) scored in the marked range, which reflected a mild to moderate level of anxiety. The lowest scoring student was only one point away from being in the mild anxiety category scoring a 56. Overall, the majority of the participants ranged from moderate to severe anxiety on the Liebowitz scale, prior to the intervention.

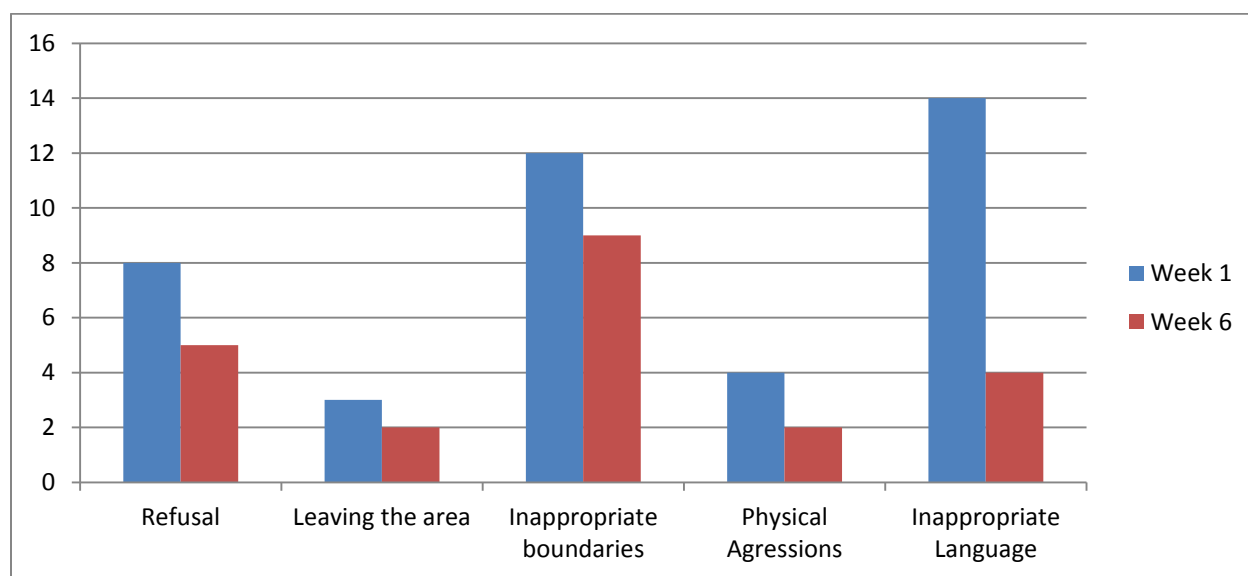
Overall, the post test responses minimally decreased from the pre-test responses. Student 1 remained in the severe anxiety level category, while participants 2 through 5 were in the moderate category. Students 6, 7, and 9 are in the marked anxiety (which is less than moderate but more than mild) category and student 8 scored at the high end of the mild anxiety level. There was a small decrease for students 1, 2, 4, 5, 6, 7, and 8. Student 2's score moved slightly higher than in the pre-test, and student 9 scores were the same from pre to post test.

First and Sixth Week of Intervention

During the first and sixth week of the intervention the following results were compiled for each of the nine students targeting five specific behavioral areas which were: refusal to complete a task, leaving the area (classroom), inappropriate boundaries with staff and/or peers, physical aggressions with staff and/or peers, and inappropriate language.

Table 3 Student #1 Behavior for Weeks 1 and 6

Behavior	Refusal	Leaving the Area	Inappropriate Boundaries	Physical Aggressions	Inappropriate Language
Week 1	8	3	12	4	14
Week 6	5	2	9	2	4

Figure 1 Student #1 – Frequency of Behavior for Weeks 1 and 6

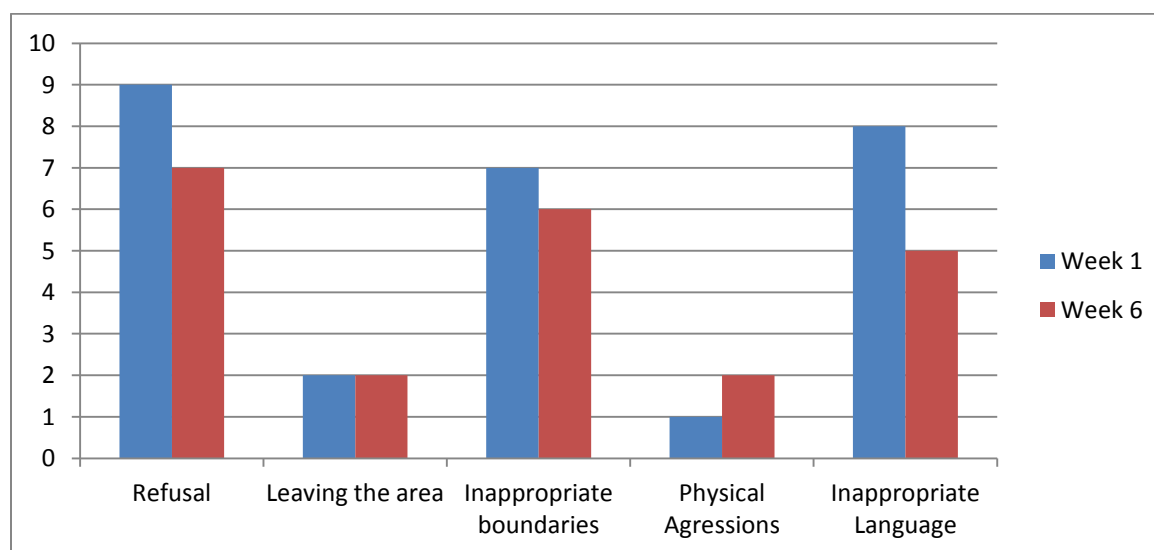
The biggest challenge for student 1 during the first week of the intervention was maintaining appropriate boundaries. His tendency was to move too close to his teachers and instructional aides when he appeared agitated or upset. His refusal to complete activities took place during the first days of the week and progressively improved throughout the week. Student 1 left the area by running down the hall on two separate occasions. In both instances it was determined that the cause was task avoidance, as he admitted that he didn't wish to read the material presented.

The physical aggressions also took place at the beginning of the week, with the inappropriate language occurring randomly throughout the week. He would sometimes make inappropriate comments when he wished to gain his peers' attention and also when he was frustrated and upset by either a peer or by the class assignment.

Student 1 made significant behavior advancements throughout the six week intervention, as the negative behaviors decreased in all five areas, in comparison to the first week. He continued to refuse to complete tasks that involved a lot of writing or reading; however, he left the class without permission on only two occasions throughout the entire week. In one instance he ran down the hallway and attempted to enter the gym, but the other time he remained standing by the door of the classroom. Student 1 continually found appropriate boundaries challenging, as he would stand too close to his teacher or instructional aide, although he had three less incidents than during the first week. The most improvement though, was in the decrease of inappropriate language. He wasn't swearing or making rude or sexual comments towards his peers or teacher as frequently. Instead he began using some of the coping techniques he had been taught during the intervention, such as taking deep breaths, giving peers' space, and utilizing the sensory items (squeeze balls or putty) that were available.

Table 4 Student #2 Behavior for Weeks 1 and 6

Behavior	Refusal	Leaving the Area	Inappropriate Boundaries	Physical Aggressions	Inappropriate Language
Week 1	9	2	7	1	8
Week 6	7	2	6	2	5

Figure 2 Student #2 Frequency of Behavior for Weeks 1 and 6

Student 2 refused to complete over half the social skills projects and assignments throughout the first week of the intervention, instead choosing to put his head on his desk. He chose to avoid two different activities within the same class period by leaving the area and entering the calming area in the hallway; however, he did so without permission. His inappropriate boundaries consisted of moving too close to his peers, and trying to touch his teacher's hair and face. He also tried to hug a peer who had asked politely for some personal space. Student 2 became aggressive when he was told to return to the classroom and ask

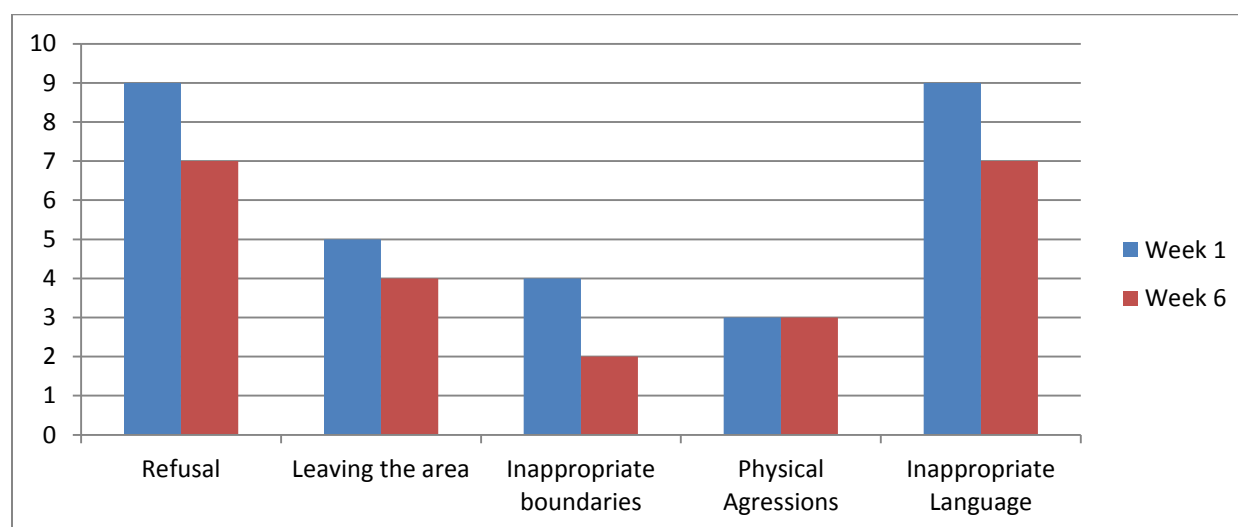
permission appropriately to enter the calming area. This is when most of the inappropriate language occurred.

In the sixth week, student 2 continued to refuse to complete several social skills activities with his peers, instead putting his head down on his desk. He refused two less times than at the beginning of the intervention, and participated in at least one group activity during both the fifth and sixth week. Leaving the classroom without permission occurred at least twice a week throughout the intervention. Student 2 made some improvement with maintaining appropriate boundaries, as he began verbalizing before he would give a peer or his teacher a hug, and did well respecting his peers that didn't wish him to hug them. He had more difficulty with the teacher's personal space boundaries though, as he attempted to play with her hair on three different occasions. Student 2 became physically aggressive when he was told he couldn't do something (such as invade boundaries) averaging three incidents per week. The amount of inappropriate language decreased throughout the intervention as well.

Table 5 Student #3 Behavior for Weeks 1 and 6

Behavior	Refusal	Leaving the Area	Inappropriate Boundaries	Physical Aggressions	Inappropriate Language
Week 1	9	5	4	3	9
Week 6	7	4	2	3	7

Figure 3 Student #3 Frequency of Behavior for Weeks 1 and 6



Student 3 refused to complete activities consistently throughout the week, as he stated that the information was “boring” and “dumb.” He instead left the classroom on five occasions without permission, and attempted to enter the gym to play basketball. When he was unable to enter the gym he became physically aggressive on three occasions as well. Student 3 exhibited appropriate boundaries with his peers and teachers, as he invaded the teacher’s personal space only four times. His inappropriate language surfaced more often towards the end of the week.

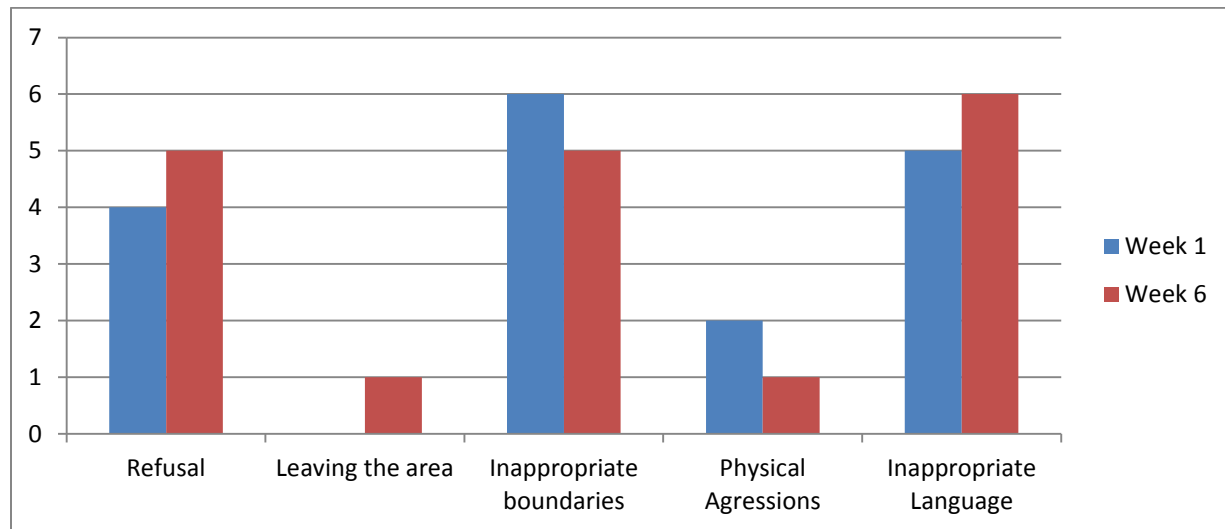
Student 3 participated in more reading and writing lessons by the end of the intervention than at the beginning, but still verbalized his dislike of social skills class. He consistently refused to take part in group games (especially charades) and group projects. Student 3 left the classroom on four occasions without permission, and attempted to enter the gym to play basketball or to disrupt the classroom across the hall. The fact that he was unable to enter the gym was the reason behind his becoming physically aggressive on three occasions as well. The majority of his inappropriate language occurred during physical altercations.

The beginning of the week started out badly for student 3, as he tried to hit and kick his teacher and invaded personal boundaries at last four different times. Student 3 worked on maintaining appropriate boundaries with his peers and teachers throughout this intervention as well as on using appropriate language to express his feelings.

Table 6 Student #4 Behavior for Weeks 1 and 6

Behavior	Refusal	Leaving the Area	Inappropriate Boundaries	Physical Aggressions	Inappropriate Language
Week 1	4	0	6	2	5
Week 6	5	1	5	1	6

Figure 4 Student #4 Frequency of Behavior for Weeks 1 and 6



Student 4 had difficulty during the first week of the intervention with maintaining appropriate boundaries and using appropriate language. If he became frustrated and upset by the social skills lesson, he would swear and yell at the teacher or peers. He would also invade his teacher's personal space in an attempt to hit or kick. Student 4 did not leave the area without

permission but was escorted to the calming area on a few occasions by staff. He became physically aggressive twice towards staff, at the beginning of the week. Both incidents were due to conflicts with peers he was working with during group projects. He also refused to complete activities that related to reading aloud in class or writing in his journal.

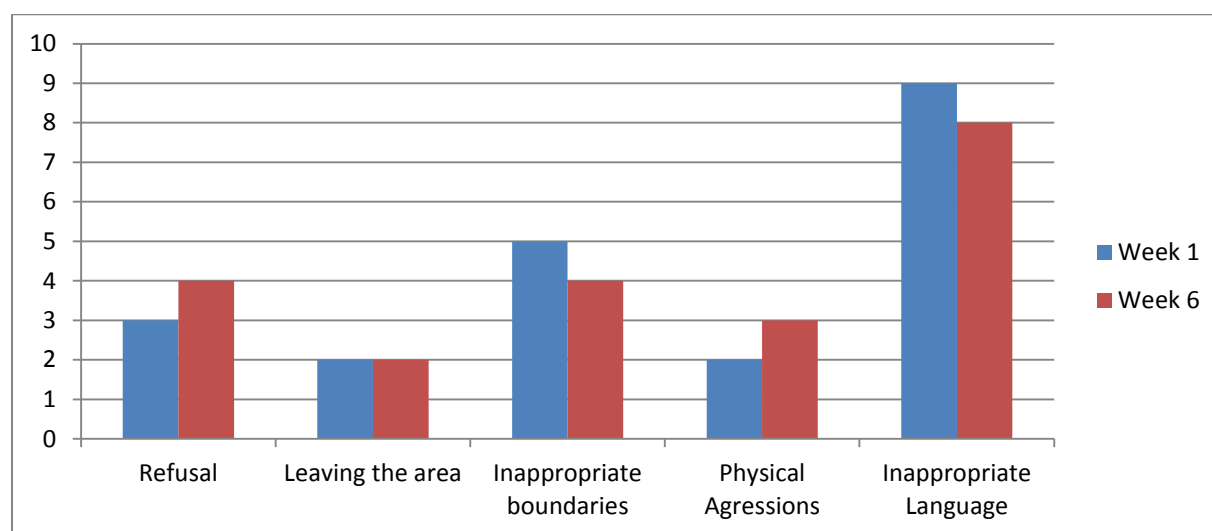
Student 4 frequently refused during the sixth week to complete written and reading assignments during social skills class, and also rarely participated in group projects. He did enjoy the social games, especially if he was given a leading role, such as the team captain. The number of refusals decreased during the second and third weeks of the intervention, but then increased again during the fifth and sixth weeks.

Student 4 asked for permission to remove himself from a situation appropriately and rarely left the area more than once a week without permission. He also utilized the sensory items available, and took short walks with staff, to reduce any stress or frustration. He averaged two physical aggressions a week during this intervention, most of which were the result of teasing from his peers. Inappropriate language continued to increase throughout the six weeks.

Table 7 Student #5 Behavior for Weeks 1 and 6

Behavior	Refusal	Leaving the Area	Inappropriate Boundaries	Physical Aggressions	Inappropriate Language
Week 1	3	2	5	2	9
Week 6	4	2	4	3	8

Figure 5 Student #5 Frequency of Behavior for Weeks 1 and 6



Student 5 refused to work on three different group projects throughout the first week. He verbalized that he did not like any of the peers in the group, and would work appropriately if he could complete the assignment independently. After the teacher gave him the opportunity to work on his own, however, he became distracting to his peers by walking around the room and invading personal boundaries. Student 5 became aggressive towards a peer during a teasing dispute towards the end of the week, and then also became aggressive towards the staff. It was during these incidents that student 5 attempted to leave the area without permission as well.

Student 5 refused to complete the majority of group activities throughout the intervention. He had difficulty appropriately interacting with his peers, as he would either become angry or silly, or make inappropriate comments. These comments usually related to another peer's appearance (calling someone fat, ugly, gross, etc.) or he made fun of someone if he would make a mistake. He sometimes tried to read other peers' journals, and mock the information as well. He exhibited inappropriate boundaries when he was redirected by the teacher to take a break in the calming area, and twice tried to leave the classroom and run out of

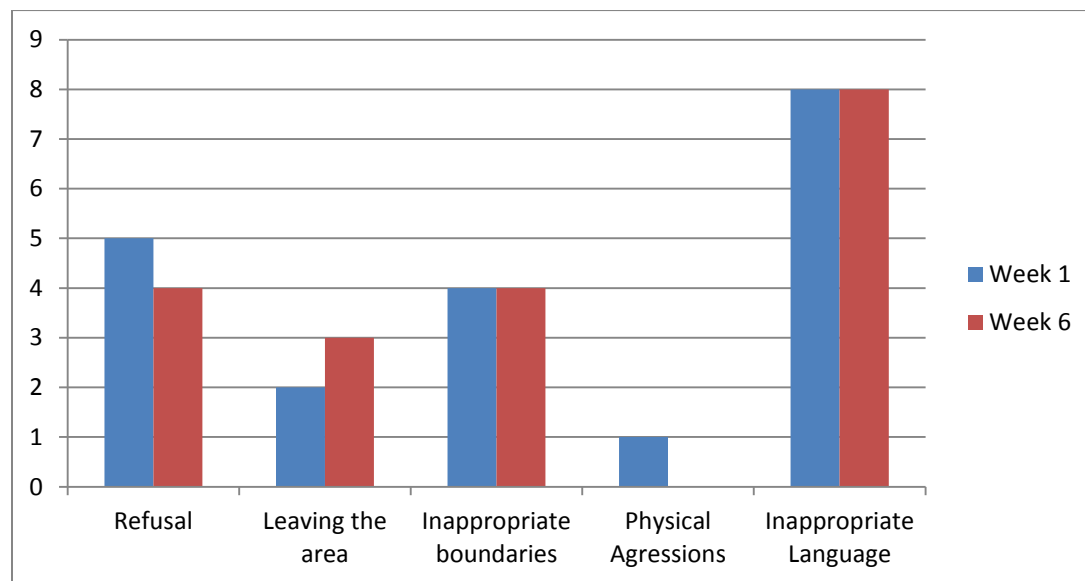
the school building. He attempted to leave the school building five times throughout this intervention.

All the physical aggression during the sixth week was directed towards the teacher when informed he needed to remain in the calming area or in the classroom. There were four instances during the six weeks when he became physically aggressive towards his peers as well.

Table 8 Student #6 Behavior for Weeks 1 and 6

Behavior	Refusal	Leaving the Area	Inappropriate Boundaries	Physical Aggressions	Inappropriate Language
Week 1	5	2	4	1	8
Week 6	4	3	4	0	8

Figure 6 Student #6 Frequency of Behavior for Weeks 1 and 6



Student 6 refused to complete activities consistently throughout the week, when they related to writing in his journal, or completing a reading assignment. He found reading very

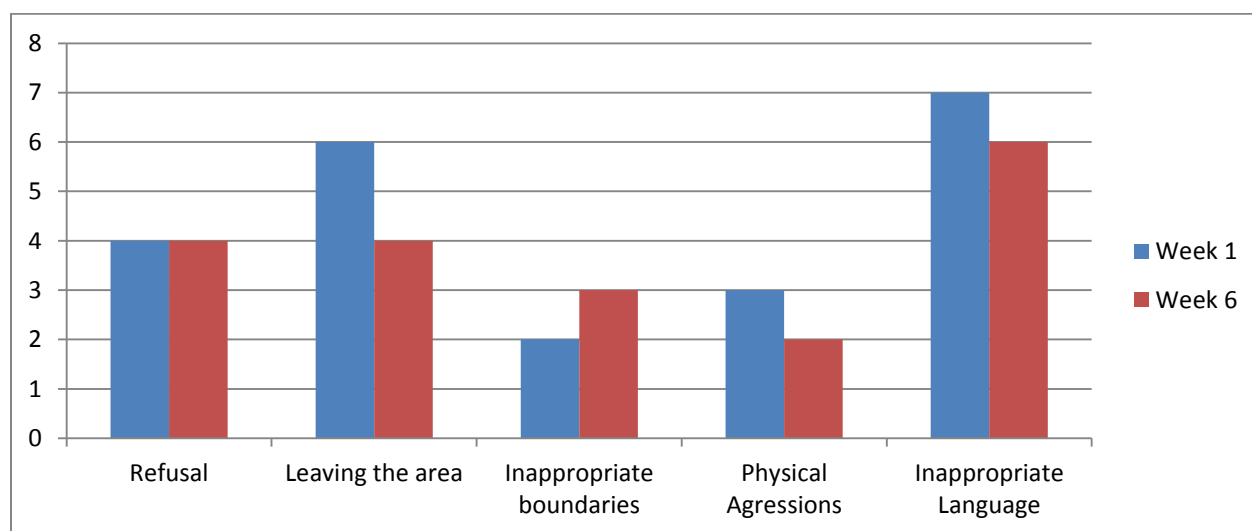
challenging, and became upset and frustrated when he struggled with some of the words, during a social skills lesson. He became physically aggressive towards a peer, as a result of teasing that took place when he attempted to read aloud to the class. Two separate times he immediately ran out the door and into the hallway prior to a reading time beginning, when he saw the teacher take out the Social Time magazines. Student 6 frequently used inappropriate language during class as an indication to his peers and staff that he was upset. Inappropriate boundaries consisted of his attempting to kick, hit, or run past staff.

Student 6 struggled to complete reading and writing assignments appropriately, throughout the six week intervention. He remained very sensitive to any teasing or inappropriate comments made by peers in reference to his reading skills as reading was an area he found challenging. Towards the end of the intervention he refused to complete any reading activities, instead putting his head down or walking out of the classroom. The teacher had several conversations with his peers about their teasing comments as well.

Student 6 struggled to verbalize his feelings using appropriate language or maintaining boundaries throughout the intervention; however, he did make meaningful improvements in the area of physical aggression. During the first four weeks he averaged between two and three aggressions per week, yet for the last two weeks he avoided any physical altercations. He utilized the break room and calming area appropriately, a reflection of the coping techniques taught within the social skills lessons.

Table 9 Student #7 Behavior for Weeks 1 and 6

Behavior	Refusal	Leaving the Area	Inappropriate Boundaries	Physical Aggressions	Inappropriate Language
Week 1	4	6	2	3	7
Week 6	4	4	3	2	6

Figure 7 Student #7 Frequency of Behavior for Weeks 1 and 6

Student 7 did very well during the reading and writing lessons throughout the first week, but refused to participate in any of the group games. He stated that “everyone became too competitive,” and that he didn’t like working with a certain peer. He consistently would leave the classroom without informing his teacher or staff, and either enter the calming area, or try to join another class across the hall. He verbalized that he didn’t like being part of this class, and wanted a new class and teacher. His physical aggressions took place after teasing incidents occurred with peers, and when told he needed to remain in his current classroom. He made several inappropriate comments directed towards his peers at this time as well.

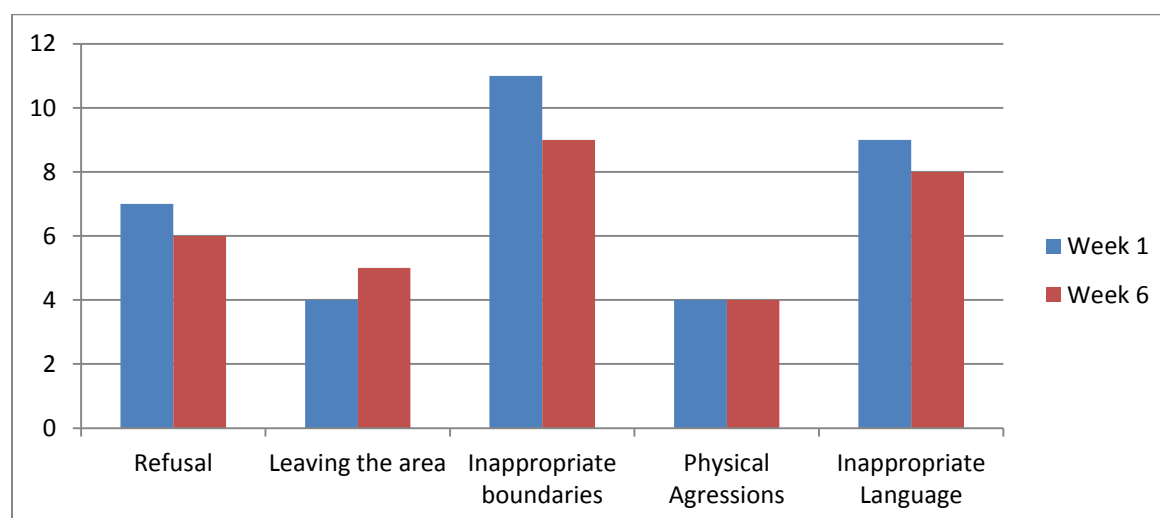
The amount of refusal by student 7 remained consistent throughout the intervention, as he refused to complete activities that involved interacting with his peers. He did not complete any of the social skill games or group projects. He did well independently completing the projects and wrote several detailed and appropriate journal entries. He continued to verbalize to the teacher and instructional aide that he did not wish to remain in the classroom, and did not like being around certain peers. He left the area four different times during the sixth week, all the result of teasing and inappropriate interactions with his peers.

Student 7 teased and made inappropriate comments towards his peers; however, he tried to portray himself as the victim. Inappropriate language continued to increase in the middle of the intervention, and then decreased to only two instances during the fifth week, before returning to six occurrences in the sixth week.

Table 10 Student #8 Behavior for Weeks 1 and 6

Behavior	Refusal	Leaving the Area	Inappropriate Boundaries	Physical Aggressions	Inappropriate Language
Week 1	7	4	11	4	9
Week 6	6	5	9	4	8

Figure 8 Student #8 Frequency of Behavior for Weeks 1 and 6



Student 8 also refused to complete activities that related to reading or writing, insisting that they were pointless. He became very competitive during group games or projects, as he often got upset if he wasn't chosen to be the team leader, or if he felt that his suggestions weren't being used. Student 8 utilized the calming area and sensory items available; however, he did still leave the class without permission, four times. Each time related to either disliking a peer group assignment or after losing a game. Student 8 got into some physical confrontations with his peers, due to the fact that he would frequently invade personal boundaries by either attempting to put his arm around them, or playfully push them. Inappropriate language surfaced during these physical altercations, or as a result of losing a team game.

The most notable change in results for student 8 over the course of the six weeks occurred with inappropriate boundaries which led to physical aggression. At the start of the intervention, student 8 exhibited appropriate space between his peers and staff, and did not have any physically aggressive episodes. Then in the middle of the third week, he became upset

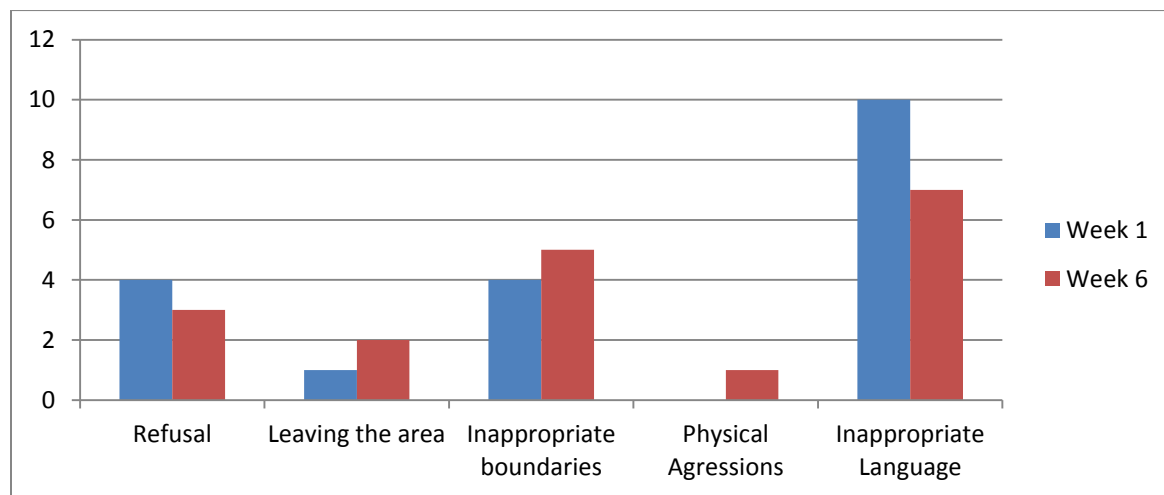
during a group game, and attempted to hit one peer and kick another. The staff intervened, whom he also attempted to hit and bite.

The aggressive behavior continued to surface for the rest of the six weeks, with the most episodes observed during the fifth week (seven). He refused to participate more frequently towards the end of the intervention, and left the area without permission.

Table 11 Student #9 Behavior for Weeks 1 and 6

Behavior	Refusal	Leaving the Area	Inappropriate Boundaries	Physical Aggressions	Inappropriate Language
Week 1	4	1	4	0	10
Week 6	3	2	5	1	7

Figure 9 Student #9 Frequency of Behavior for Weeks 1 and 6



Student 9 frequently participated in class projects and games, and volunteered to read in class, but would refuse to complete writing tasks, such as answering comprehension questions related to the reading. He also refused to complete two journal entries throughout the week.

During these refusals, he would attempt to distract his peers who were focused on their work, by walking around the classroom, making rude or teasing comments, or pretending to steal their papers. He would target one particular peer as well, by pretending to write on his journal or rip his paper. During these instances he would invade boundaries. Student 9 did well calming down appropriately throughout the week though, and there were no physical aggressions. He did leave the classroom once without informing the teacher of where he was going, but stood quietly in the hallway in an effort to calm down.

Student 9 refused to complete activities which required reading and writing throughout the six weeks. He would instead try to distract his peers by teasing or making inappropriate comments. The inappropriate language significantly escalated in the fourth and fifth week, averaging 14 times, but then decreasing to seven incidents in the sixth week, three less times than at the beginning of the intervention.

Student 9 did not frequently leave the classroom without permission, but instead asked to take a break and use the calming area. If he did not feel that his needs were instantly met, however, he exhibited inappropriate behavior, by moving into the personal space of his teacher or other peers. Then he would pretend to give his peers a hug or touch their hair. When a peer became very upset and angry with him he became physically aggressive. Then the teacher and aide intervened, and he was removed to the calming area. Overall, student 9 showed marked improvement in the area of self-regulation.

Summary

Overall, the six week intervention reflected links between the social skills class and certain inappropriate behaviors, which resulted in the behaviors either steadily decreasing or

increasing. There were numerous teasing incidences throughout the intervention, among all the peers. The students were less likely to participate in an area in which they struggled (for example reading or writing) if they felt that their peers were going to mock their mistakes.

Inappropriate language surfaced during these teasing incidents, in all nine students. The inappropriate boundaries usually began as task avoidance and an attempt to gain attention and distract others. For example, if students refused to complete independent journal work, they might run around the classroom yelling and making teasing comments towards their peers, in an attempt to get their attention.

The greatest improvement during the intervention was in the category of leaving the area without permission, as students began utilizing their coping techniques within the room, or asking to take a break in the calming area. All nine students had at least one instance where they utilized a sensory item or the break out room in an appropriate manner, over the course of the six weeks.

Overall, the intervention was successful with each student experiencing some reduction in negative behaviors. The span of six weeks wasn't enough time for significant alterations of social anxiety though, as the intervention would need to be continued on a weekly basis. There was proof that the social skills lessons helped the students though, so these materials and activities should be used as a reference as well.

Chapter 5

Conclusions

All nine students made some improvement throughout the six week intervention, as they gained knowledge and skills in how to interact appropriately with one another. Participation increased during group games and projects, during which the class was given hands-on experience with their newly acquired social skills. Overall, the participation declined during the reading and writing activities as there was a fear of rejection or teasing from peers. Also reading and writing were challenging areas for most of the students.

The students did very well verbalizing their feelings to the teacher and staff, although they needed some verbal prompting and visual cues to maintain appropriate language.

Because the classroom was very close to the gym, a place that seven out of the nine students really enjoyed, they would attempt to leave the class and enter the gym when they felt upset and angry even though they knew that the teacher would not allow them in the gym during social skills class

The results of this intervention were closely linked to the conclusions found in the research studies reviewed. For example, Wolpe's discovery that behavior could be "unlearned, was reflected the importance of teaching children appropriate behaviors (Berger, 2005). Wolpe was able to draw the conclusion through his studies that behaviors must be introduced, modeled, and then practiced several different times, in a variety of setting, before they could truly be acquired (Berger, 2005). For example, during this intervention, several students made improvements in at least one behavioral area in which they had struggled in the past, due to being taught through direct instruction and modeling appropriate ways to behave. Short readings

and discussion questions introduced the information to the students, but it was during the games and projects that the students had a chance for hands-on experience and role playing of the newly acquired skills.

The study conducted by Beidel in 1997, also had a direct relation to this research study, as it examined students with behavioral inhibitions which resulted in social anxiety. After examining a group of 284 students (with and without behavioral inhibitions), it was determined that students with behavioral inhibitions were 17% more likely to develop social anxiety (Beidel 1997). The participants of this study were students with emotional disabilities, with behavioral inhibitions. For example, it was more challenging for these children to comprehend appropriate social cues and situations, and they weren't always aware of the correct actions and words to say. Therefore, the teaching of social skills was even more critical for them.

The study of a group of people completing cognitive behavioral group therapy reflected the fact that acquiring appropriate social skills would decrease social anxiety over time (American Psychiatric Press, 2008). It took the participants of the corrective behavior study several twelve weeks of intense group meetings to see minimal progress, which then improved over the course of a couple of years. This finding represents the fact that it takes time to decrease social anxiety, and therefore a six-week intervention was not a long enough time for significant improvement in social anxiety to occur.

The time period did allow for some minimal changes, however, as shown in the post test scores of the Liebowitz Anxiety Scale (Liebowitz, 1987) completed by the nine participants at the end of the intervention. Seven of the students' anxiety scores decreased by at least a point, while one student's score remained the same and another student's slightly increased. Overall,

this researcher concludes that learning appropriate social skills could help decrease social anxiety over time.

References

- Beidel, J, Beiderman, J, Hirshfeld-Becker, D, & Rosenbaum, J. (2001). Further evidence of association between behavioral inhibition and social anxiety in children. *The American Journal of Psychiatry*, 158(10), 1673-1679.
- Benson, M. (2009). Enhancing students' social and emotional learning. *Journal of Child Psychology*, 82(1), 405-432.
- Berger, T. (2005). Key figures in counseling and psychotherapy. *Journal of Behavior Therapy*, 36.
- Buron, K.D. (2010). *The Social Times*. Shawnee, Kansas: Social Times Publishing Inc.
- Crooke, P.J, Hendrix R.E., & Rachman J.Y. (2007). Brief report: Measuring the effectiveness of teaching social thinking to children with Asperger syndrome (AS) and High Functioning Autism (HFA) *Journal of Autism and Developmental Disorders*, 38 (3), 581-91. Retrieved from <http://www.ncbi.nlm.nih.gov/pubmed/18026829>
- Durlak J., & Schellinger, K. (2010). The benefits of school-based social and emotional learning programs. School based Programs. *Social and Emotional Learning Research Group*. Chicago: University of Illinois at Chicago.
- Goldstein, A. P., & McGinnis, E.(1997). *Skillstreaming the adolescent: New strategies and perspectives for teaching Prosocial Skills*. Champaign, IL: Research Press.

Journal of American Psychiatric Press, 2008 retrieved from

<http://ajp.psychiatryonline.org/article.aspx?articleID=102381>

Leibowitz, M. (1987). The Leibowitz Anxiety Scale. Retrieved from

<http://asp.cumc.columbia.edu/SAD/>

March, J, Parker, J, Sullivan, K, Stallings, P, & Conners, K. (1997). The Multidimensional

Anxiety Scale for Children: Factor, structure, reliability and validity. *Journal of the American Academy of Child and Adolescent Psychiatry*, 36(4), 554-565.

National Institutes of Mental Health (2011). National survey dispels notion that social phobia is

the same as shyness. Retrieved from

<http://www.nimh.nih.gov/science-news/2011/national-survey-dispels-notion-that-social-phobia-is-the-same-as-shyness.shtml>

New World Encyclopedia, 2008. Retrieved from

http://www.newworldencyclopedia.org/entry/Joseph_Wolpe

Reyes, L. (2009). Joseph Wolpe: A Personal Remembrance. *Journal of Behavior Therapy and*

Experimental Psychiatry, (29) 3.

Richards, T. (1996). *What is Social Anxiety?*. Retrieved from

<http://www.socialanxietyinstitute.org/define.html>

Robinson, D. (1997). Multidimensional Scale of Development. *Journal of Anxiety Disorders*,

(31) 4.

Social anxiety in children with Aspergers Syndrome. *Journal of Child Psychiatry*, (4) 8, 402-408.

Virginia Polytechnic Institute (2001). *Fear in children and adolescents: Relations with negative life events*. Blacksburg, VA: Virginia Polytechnic Institute.

Winner, M. G. (2008). *Think social: A social thinking curriculum for school-age students*.

San Jose, CA: Think Social Publishing Inc.

Winner, M.G. (2008). Social thinking. *Journal of Autism and Developmental Disorders*, 1-8.